



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,471	07/25/2003	Xianping Wang	5861	3224

7590

09/27/2005

David L. Hedden  
ASHLAND INC.  
P.O. Box 2219  
Columbus, OH 43216

EXAMINER

SANDERS, KRIELLION ANTIONETTE

ART UNIT

PAPER NUMBER

1714

DATE MAILED: 09/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/627,471	<b>Applicant(s)</b> WANG ET AL.	
	<b>Examiner</b> Kriellion A. Sanders	<b>Art Unit</b> 1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/03</u> . | 6) <input type="checkbox"/> Other: ____.  |

14

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. The terms "effective amount and parts" in claim 1 are relative terms which render the claims indefinite. The terms "effective amount and parts" are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The term "parts" does not refer to a specific unit of measurement, such as weight or moles.

4. Claim 2 incorrectly depends upon itself so can not be understood. Claims 3-12 depend directly or indirectly upon claim 2.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1714

6. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodson, US Patent No. 4806576 in view of Moore, US Patent No. 3107403 and Kottke et al, US Patent No. 3145438.

7. Woodson discloses curable epoxy resin compositions comprising acid curable epoxy resins and a minor amount of an oxidizing agent which is capable of reacting with sulfur dioxide to form a catalyst for curing said epoxy resin. These curable epoxy resin compositions are useful in preparing formed, shaped, filled bodies such as abrasive articles, foundry cores and molds. Suitable epoxy resins for purposes of the invention include diglycidyl ethers of bisphenol A and the diglycidyl ethers of other bisphenol compounds such as bisphenol B, F, G and H. Another class of epoxy resins useful in the patented invention is the novolacs, particularly the epoxy cresol and epoxy phenol novolacs. The epoxides are used in an amount of 30-50 pbw of the composition. A suitable oxidizing agent for use with the epoxy resins of the patented invention is cumene hydroperoxide. The sulfur dioxide used to cure the epoxy resins of the invention may be presented in a stream of a carrier gas. See col. 6, lines 12-62. The cold box process for foundry preparation is disclosed by patentee. The Woodson reference differs from applicant's invention in that it fails to teach the inclusion of fluorinated acid.

8. Moore discloses molding cores prepared from polymerizable epoxide binders. Patentee also discloses a method for the rapid production of the molded cores wherein a filler and an epoxide are combined in a mold, tamped and subsequently treated with a polymerization catalyst. Suitable catalysts for the invention include strong Lewis acids such as boron trifluoride. This catalyst is considered to be a fluorinated acid. It is also a gas. See col. 1, line 9 through col. 2, line 59. Also see col. 4, line 23 through col. 8, line 68.

Art Unit: 1714

9. Kottke et al discloses a method for making core and molding sands with organic binders which can be cured quickly in the absence of heat. Patentee indicates that epoxy resins may be used as binders and boron trifluoride may be used as an acid catalyst. See col. 1, line 10 through col. 3, line 15.

10. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the boron trifluoride acid catalyst of Moor or Kottke et al as a fluorinated acid catalyst to speed the cure of the Woodson epoxy resins in the absence of heat, since Woodson discloses that the dioxide used to cure the epoxy resins of the invention may be presented in a stream of a carrier gas and the boron trifluoride acid catalyst of Moor or Kottke et al are in gas form.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kriellion A. Sanders whose telephone number is 571-272-1122. The examiner can normally be reached on Monday through Thursday 6:30-7:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/627,471

Page 5

Art Unit: 1714

  
Kriellion A. Sanders  
Primary Examiner  
Art Unit 1714

ks